SUPPRESSION OF PERIODIC INTERFERENCE
IN A COMMUNICATIONS SYSTEM

ABSTRACT

Methods, systems, and arrangements enable the generation of a replica of periodic interference that is disturbing a desired signal so as to subtract out an estimation of the periodic interference from the infected signal. In certain

5   embodiments, a speech signal from a microphone of a mobile station is infected with "bumblebee" noise. In accordance with the present invention, a received signal includes a desired and an interfering component. The received signal is bandpass filtered around the expected frequency of the

10   interfering component, and a fundamental frequency thereof may thereafter be ascertained. Harmonics of the fundamental frequency are generated so as to reconstruct an estimate of the interfering component in the frequency domain using determined weights and Fourier series theory. The

15   interfering component estimate is subtracted from the received signal to determine a desired component estimate. The weights may be optionally adjusted in a feedback loop.